What is claimed is:

1. A computerized system for generating an initial version of object code from an initial version of source code created by a computer programmer so that the initial version of object code comprising:

a computer readable medium; and,

a set of computer readable instructions embodied in said computer readable medium for:

creating an initial version of source code,

storing said initial version of source code within said computer readable medium,

segmenting said initial version of source code by creating initial grain boundaries that define initial grains having predetermined segments of code within said initial version of source code, and

translating said initial version of source code to an initial version of object code, said object code having object grain boundaries and object grains corresponding to said initial grain boundaries and said initial grains respectively so that initial object code is provided that can be subsequently modified without halting its execution.

2. The system of claim 1 wherein said computer readable instructions include instructions for making available said initial grain boundaries to the computer programmer for inspection and review so that the computer programmer can preview said initial grains.

3. The system of claim 1 wherein said computer readable

instructions include instructions for modifying said initial grain boundaries of said initial version of source code so that said initial grains of the initial version of source code can be modified so that the computer programmer can modify said grains.

4. The system of claim 1 wherein said computer readable instructions include instructions for storing said initial grain boundaries and said object code in said computer readable medium for subsequent retrieval when performing modifications to said initial object code.

5. The system of claim 1 wherein said computer readable instructions include instructions for verifying lexical information of said initial version of source code so that lexical errors may be identified in said source code prior to its translation.

6. The system of claim 1 wherein said computer readable instructions include instructions for verifying syntactical information of said initial version of source code so that syntactical errors may be identified in said source code prior to its translation.

7. The system of claim 1 wherein said computer readable instructions include instructions for:

retrieving said initial version of source code from said computer readable medium,

creating a second version of source code from said initial version of computer readable medium having second grain boundaries defining second grains, and,

mapping said initial grain boundaries of said initial version of source code onto said second grain boundaries of said second version of source code so that differences between said initial grains and said second grains can be determined.

8. The system of claim 1 wherein said computer readable instructions include instructions for:

presenting varying compiler optimization levels according to said initial grain boundaries of said initial version of source code, and,

receiving an optimization level selection for translating said initial version of source code to an initial version of object code.

9. The system of claim 8 wherein said computer readable instructions include instructions for storing said selected optimization level within said computer readable medium for subsequent retrieval.

10. The system of claim 1 including a crumb associated with said object grain having an active and inactive state so that said object grain will be modified when said crumb is in said active state without halting the execution of said object code.

11. A computerized system for modifying a first version of object code having first grain boundaries and first grains, stored in a computer readable medium, to a second version of object code comprising:

a set of computer readable instructions embodied within said computer readable medium for:

retrieving said first version of source code from said computer readable

medium,

duplicating said first version of source code into a second version of source code within said computer readable medium,

creating second grain boundaries associated with said second version of source code defining second grains,

mapping said first grains onto said second grains,

editing said second version of source code,

translating said second version of source code to a second version of object code while maintaining said mapping of said first and second grains,

creating a dynamic list of first grains and corresponding second grains for at least those first grains to be modified according to said second version of source code,

creating a dictatorial having at least one dictum according to said dynamic list and at least a portion of said second version of object code, and,

generating a hot pack according to said dictatorial and at least a portion of said second version of object code so that said hot pack can be distributed in order to modify said first version of object code to said second version of object code without halting the execution of said first version of object code.

12. The system of claim 11 wherein said computer readable instructions include instructions for editing said second grain boundaries so that said second grains can be modified.

13. The system of claim 11 wherein said computer readable instructions include instructions for verifying lexical information of said second

version of source code so that lexical errors may be identified in said second version of source code.

14. The system of claim 11 wherein said computer readable instructions include instructions for verifying syntactical information of said second version of source code so that syntactical errors may be identified in said second version of source code.

15. The system of claim 11 wherein said computer readable instructions include instructions for:

presenting varying compiler optimization levels according to said second grain boundaries; and,

receiving an optimization level selection for translating said second version of source code to a second version of object code.

16. The system of claim 15 wherein said computer readable instructions include instructions for storing said selected optimization level in said computer readable medium.

17. The system of claim 11 wherein said computer readable instructions include instructions for adding dictums to said dictorial so that the computer programmer may modify said dcitorial.

18. The system of claim 11 wherein said computer readable instructions include instructions for modifying said dynamic list so that the computer programmer may modify said dynamic list.

19. A computerized system for providing an initial version of object code according to an initial version of source code provided by a computer

programmer so that the initial version of object code can be modified without halting its execution comprising:

a means for creating an initial version of source code;

a means for storing said initial version of source code within said computer readable medium;

a means for segmenting said initial version of source code by initial grain boundaries to create initial grains within said initial version of source code; and,

a means for translating said initial version of source code to an initial version of object code with said object code having object grain boundaries and object grains corresponding to said initial grain boundaries and said initial grains respectively.

20. The system of claim 19 including a means for providing said initial grain boundaries to the computer programmer for inspection and review.

21. The system of claim 19 including a means for modifying said initial grain boundaries of said initial version of source code.

22. The system of claim 19 including a means for storing said initial grain boundaries in said computer readable medium.

23. The system of claim 19 including a means for verifying the lexical information of said initial version of source code so that lexical errors may be identified in said source code.

24. The system of claim 19 including a means for verifying syntactical information of said initial version of source code so that syntactical

errors may be identified in said source code.

25. The system of claim 19 including:

A means for retrieving said initial version of source code from said computer readable medium;

a means for creating a second version of source code from said first version of computer readable medium having second grain boundaries defining second grains;

a means for mapping said initial grain boundaries of said initial version of source code onto said second grain boundaries of said second version of source code so that said initial grains of said first version map on to said second grains of said second version.

26. The system of claim 19 including:

a means for presenting varying compiler optimization levels according to said initial grain boundaries of said initial version of source code; and,

a means for receiving an optimization level selection for translating said initial version of source code to an initial version of object code.

27. The system of claim 26 including a means for storing said selected optimization level within said computer readable medium.

28. The system of claim 19 including a means for modifying said initial grain without halting the execution of said object code.

29. A computerized system for modifying a first version of object code having first grain boundaries and first grains, stored in a computer readable medium, to a second version of object code without halting the

execution of the first version of object code comprising:

a means for retrieving said first version of source code from said computer readable medium;

a means for duplicating said first version of source code into a second version of source code within said computer readable medium;

a means for creating second grain boundaries associated with said second version of source code defining second grains;

a means for mapping said first grains onto said second grains;

a means for editing said second version of source code;

a means for translating said second version of source code to a second version of object code while maintaining said mapping of said first and second grains;

a means for creating a dynamic list of first grains and corresponding second grains for at least those first grains to be modified according to said second version of source code;

a means for creating a dictatorial having at least one dictum according to said dynamic list and at least a portion of said second version of object code; and,

a means for generating a hot pack according to said dictatorial and at least a portion of said second version of object code so that said hot pack can be distributed in order to modify said first version of object code to said second version of object code without halting the execution of said first version of object code.

30. The system of claim 29 including a means for editing said second grain boundaries.

31. The system of claim 29 including:

a means for presenting varying compiler optimization levels according to said second grain boundaries; and,

a means for receiving an optimization level selection for translating said second version of source code to a second version of object code.

32. The system of claim 31 including a means for storing said selected optimization level in said computer readable medium.

33. The system of claim 29 including a means for adding dictums to said dictorial.

34. The system of claim 29 including a means for modifying said dynamic list.